

REMARKS

In a first Office Action dated December 21, 2008, the Examiner rejected claims 1-20 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point and distinctly claims the subject matter which applicant regards as the invention. In particular, the Examiner objected to the “and/or” phrases in each of claims 1, 4, 7, 8, 12, 13, and 15-18 and to the phrase “for example” in each of claims 5 and 6.

The Examiner further rejected claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta et al. (European patent no. EP 1 011 241, hereinafter referred to as “La Porta”) in view of Immonen et al. (U.S. patent no. 7,006,472, hereinafter referred to as “Immonen”), Edsall et al. (U.S. patent no. 5,742,604, hereinafter referred to as “Immonen”), and Prasad et al. (U.S. patent no. 7,054,328, hereinafter referred to as “Prasad”). The Examiner rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Li (U.S. patent no. 6,385,174), rejected claims 8, 9, 13, 14, and 17 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad and Li, rejected claims 10 and 16 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad, Li, and Shitama (U.S. patent no. 7,257,104), and rejected claims 11, 12, and 15 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad, Li, and Immonen. The rejections and objections are traversed and reconsideration is hereby respectfully requested.

The Examiner rejected claims 1-20 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point and distinctly claims the subject matter which applicant regards as the invention. In particular, the Examiner objected to the “and/or” phrases in each of claims 1, 4, 7, 8, 12, 13, and 15-18 and to the “for example” phrase in each of claims 5 and 6. In response, the “and/or” phrases have been deleted from claims 1, 4, 7, 8, 12, 13, and 15-18 and the phrase “for example” has been deleted from claims 5 and 6. Accordingly, the applicants respectfully request that the Examiner withdraw the §112, second paragraph, rejections of claims 1-20.

The Examiner rejected claims 1, 2, 4-6, 19, and 20 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Immonen, Edsall, and Prasad. Claim 1 has been amended to provide a method of supporting mobility in an Internet Protocol version 6 (IPv6)-based data network. The method includes generating a first stateful IPv6 autoconfiguration message at a mobile node (MN), wherein the message contains an IP address capable of use for route maintenance to/from the MN, transmitting, by the MN, the generated message to a first access node, where the access node substitutes its address in the message, forwarding the generated message, by the first access node, to a dynamic host configuration protocol (DHCP) server, and triggering one or more route update messages from the access node and the DHCP server to a number of network elements between the access node and the DHCP server in the IP based data network. The method further includes repeating the steps of generating, transmitting and forwarding for a second stateful IP autoconfiguration message that confirms the IP address of the MN when the MN attaches to a second access node, wherein the second access node substitutes its address in the second message, and in response to receiving the second stateful IPv6 autoconfiguration message, generating one or more route update messages by the second access node and the DHCP server. These features are not taught by any of La Porta, Immonen, Edsall, or Prasad.

Claim 1, as amended, provides a method for supporting mobility in an IPv6-based data network. By contrast, La Porta is directed to an IPv4 system. Stateful versus stateless address auto-configuration is a distinctive characteristic of IPv6 and is a distinction that does not exist in IPv4 and therefore does not exist in LaPorta, as acknowledged by the Examiner. Claim 1 further provides for the MN generating, and conveying to the access node, a first stateful IP autoconfiguration message. By contrast, La Porta teaches the MN generating and conveying a path setup message. These messages have different semantics and claim 1, in using a stateful IP autoconfiguration message, uses a standard message while La Porta teaches a new message that is proprietary to La Porta. Thus La Porta requires modifications to the MN that are not required by claim 1. In addition, claim 1 teaches the DHCP server generating route

update messages. By contrast, the DHCP server taught by La Porta does not generate a path setup message.

Furthermore, claim 1 as amended teaches that when the MN attaches to a second access node, the MN merely conveys a stateful IP autoconfiguration message that confirms the IP address of said mobile node. Again, not only are stateful IP autoconfiguration messages not taught by La Porta, but La Porta teaches that when a MN attaches to a new base station, the MN conveys a path update message to the new base station that includes the IP addresses of the old and new base stations, which path update message then is forwarded around the network. By contrast, claim 1 teaches that the MN merely sends, to the new access node, an IP address confirmation message, which is not a route update message and does not exist in IPv4, and the path update messages are generated by the access node and DHCP server. In contrast to claim 1, and as acknowledged by the Examiner, the DHCP server taught by La Porta does not generate any path setup or handoff path setup messages.

As noted above, the Examiner acknowledged that La Porta does not teach stateful autoconfiguration or an update message generated by a server. The Examiner further acknowledged that La Porta does not teach an access node adding its own address to a message. However, the Examiner contended that Immonen teaches stateful autoconfiguration, Edsall teaches an access node adding its own address to a message, and Prasad teaches an update message from a server.

While Immonen teaches DHCPv6, Immonen teaches that the MN uses DHCPv6 to acquire a new IP address. By contrast, claim 1, as amended, teaches use of a stateful IP autoconfiguration message to confirm a previously acquired address. In this way, in the teachings of claim 1 the MN does not acquire a new address and merely uses the previously acquired address, allowing for MN mobility to be supported by the core network without requiring an address change. Edsall teaches an ISL (Interswitch Link) encapsulation circuit, adding a source address to a packet by wrapping the packet with destination and source addresses. However, in IPv6 it is impossible to simply add an IP

address to an IP base header and intermediary routers would not recognize such a format. Thus, the teachings of Edsall are inapplicable to IPv6 and would require a modification of IPv6 intermediate routers, unlike the teachings of claim 1.

Therefore, the applicants respectfully submit that none of La Porta, Immonen, Edsall, and Prasad, individually or in combination, teaches the method of claim 1 of supporting mobility in an IPv6-based data network that includes generating a first stateful IPv6 autoconfiguration message at a MN, wherein the message contains an IP address capable of use for route maintenance to/from the MN, transmitting, by the MN, the generated message to a first access node that substitutes its address in the message, forwarding the generated message, by the first access node, to a DHCP server, triggering one or more route update messages from the access node and the DHCP server to a number of network elements between the access node and the DHCP server in the IP based data network, generating, transmitting and forwarding for a second stateful IPv6 autoconfiguration message that confirms the IP address of the MN when the MN attaches to a second access node, wherein the second access node substitutes its address in the second message, and in response to receiving the second stateful IPv6 autoconfiguration message, generating one or more route update messages by the second access node and the DHCP server. Accordingly, the applicants respectfully request that claim 1 may be passed to allowance.

Since claims 2-6 and 18-20 depend upon allowable claim 1, the applicants respectfully request that claims 2-6 and 18-20 also may be passed to allowance.

The Examiner rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Li. Claim 7, as amended, teaches an access node capable of operating in an IPv6-based data network and including a receiving function that receives a stateful IPv6 autoconfiguration message from an MN that confirms an IP address of the MN wherein the message comprises an MN IP address previously acquired by the MN from a different access node and capable of use for route maintenance to deliver data to and from the MN, and a processor that analyses the message to determine a route to

deliver data one or more of to and/or from the MN and triggers a transmission of one or more route update message from the access node to a number of network elements between the access node and a DHCP server in the IPv6-based data network. These features are not taught by La Porta or Li.

As described in detail above, La Porta does not teach stateful IPv6 autoconfiguration messages, let alone a stateful IPv6 autoconfiguration message that confirms an IP address previously acquired by the MN from another access node. La Porta also does not teach an access node generating route update messages, let alone triggering route update messages based on the stateful IPv6 autoconfiguration message that confirms an IP address previously acquired by the MN from another access node. Such a message triggering feature is not taught by Li, either. Therefore, neither La Porta nor Li, individually or in combination, teach the receiving function and processor of claim 7. Accordingly, the applicants respectfully request that claim 7 may be passed to allowance.

The Examiner rejected claims 8, 9, 13, 14, and 17 under 35 U.S.C. §103(a) as being unpatentable over La Porta in view of Prasad and Li. Claim 8 has been amended to provide a DHCP Server that is capable of operating an IPv6-based data network and that includes a receiving function for receiving at least one IP message from an MN through a second access node, wherein the at least one IP message comprises an IPv6 message that confirms an IP address previously acquired by the MN from a first access node and comprises a number of addresses used for route maintenance to deliver data one or more of to the MN and from the MN via the first access node, and a processor, operably coupled to the receiving function, wherein the processor analyses the at least one IP message, to determine a route to deliver data one or more of to the MN and from the MN and triggers a transmission of one or more route update message from the DHCP server to a number of network elements between the DHCP server and one or more of the first access node and the second access node and in the IP-based data network. As described in detail above, none of La Porta, Prasad, or Li teach triggering route update messages based on an IPv6 message received from a second access node that confirms an IP

address previously acquired by the MN from a first access node. Accordingly, the applicants respectfully request that claim 8 may be passed to allowance.

Since claims 9-17 depend upon allowable claim 8, the applicants respectfully request that claims 9-17 also may be passed to allowance.

As the applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the Examiner, the applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter. Furthermore, please charge any additional fees (including extension of time fees), if any are due, or credit overpayment to Deposit Account No. 50-2117.

Respectfully submitted,
Alexandru Petrescu et al.

By: /Steven May/

Steven A. May
Attorney for Applicants
Registration No. 44,912
Phone No.: 847/576-3635
Fax No.: 847/576-3750